DOCUMENT RESUME

ED 132 007 SE 021 443

AUTHOR	Meaney, Marie
TITLE	Your Nose Knows. [Project ECOLogy ELE Pak, Meaney Pak].
INSTITUTION	Highline Public Schools, Seattle, Wash.
SPONS AGENCY	Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.
PUB DATE	[76]
NOTE	18p.; For related documents, see SE 021 438-478; Contains broken type in Lessons
AVAILABLE FROM	Highline Public Schools, Instructional Division, Project ECOLogy ESEA Title III, Bill Guise, Director, 15675 Ambaum Blvd., S.W., Seattle, WA 98166 ($2.50)
EDRS PRICE	MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS	*Elementary School Science; Environment; *Environmental Education; *Instructional Materials; *Kindergarten; Sensory Experience; *Units of Study (Subject Fields)
IDENTIFIERS	Elementary Secondary Education Act Title III; ESEA Title III; *Odors

ABSTRACT

This is one of a series of units for environmental education developed by the Highline Public Schools. This unit is designed for kindergarten pupils, but could be used effectively with primary pupils. The six lessons use the sense of smell to investigate various aspects of the earth, seasons, animals, and commercial use of fragrances. Each lesson includes the concept of the lesson, materials needed, procedure, and evaluative activities. (RH)

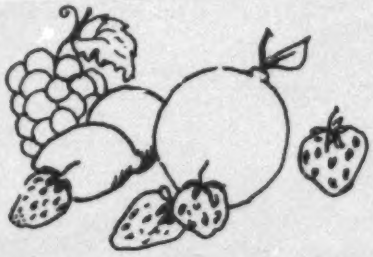
****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

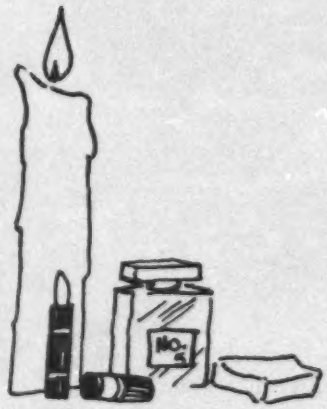
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED132007

MEANEY PAK



YOUR NOSE KNOWS



An Environmental Learning Experience for Kindergarten. One of many "ELE Paks" available for all areas.

Project ECOLogy, Title III ESEA
Highline Public Schools
P. O. Box 66100
Seattle, WA 98166
Phone: (206) 433-2453

SE 021 443

An important but sometimes underplayed part of our ecological system and appreciation of nature, is the fragrances, odors, smells whatever one calls them, that issue forth from the earth. We take these fragrances for granted and don't usually stop to think too deeply about them, or appreciate the variety of fragrances nature has given us.

As the eye is stimulated by the visual beauty of the earth, and the mind boggled by the unending cycles and immutable laws of nature, so the olfactory sense is tantalized and another level of appreciation is added to enrich our lives.

Fragrances are as important as frosting on a cake, or a bow on a package. They are not necessary, but they add to the total beauty and enjoyment of the object being considered.

Children will enjoy studying fragrances because they already know something about them. They can investigate them with some authority. The whole experience can be fun and non-threatening.

When these lessons are completed, hopefully there will be a deeper appreciation of the "common" resources of the earth, because we have become better acquainted with their fragrances.

YOUR NOSE KNOWS

1. Exploring common fragrances of the earth
2. Unecological smells
3. Cooking with the earth's fragrances
4. Commercial use of the earth's fragrances
5. Animals and smell
6. Recalling seasonal fragrances

CONCEPTUAL OVERVIEW

1. To find common earth substances and discover that they have fragrances that are fresh and appealing.

2. To discover that there are "man-made" odors which are objectionable to humans, and contrary to the earth's ecological system.

3. To enjoy the delicious fragrances of the earth by cooking with them.

4. To find the ways man has used natural fragrances in unnatural forms to make functional activities more pleasant.

5. To learn about the olfactory sense in animals and their use of it to defend themselves, find mates, discover, and sense direction.

6. To experience through recall and storytelling a fragrance that corresponds with some positive experience in the past.

MASTER MATERIALS LIST

Lesson 1

plastic see-through containers with air tight lids
pressure labels
sign - "Fragrances of the Earth"

Lesson 2

flasks containing: rotten egg, oily water, rotten garbage, exhaust sediment
pictures: factory chimney, oil spill, litter, traffic jam, aerosol cans

Lesson 3

iced tea with lemon and mint
chart paper - felt pen
white cake mix
baking utensils
fruit extracts

Lesson 4

pressure labels, felt pen
commercial products that use fragrances of the earth
Mr. Yuk stickers

Lesson 5

animal pictures
reading excerpts

Lesson 6

seasonal pictures
primer typewriter, paper

LESSON 1

EXPLORING COMMON FRAGRANCES OF THE EARTH

CONCEPT: To find common earth substances and discover that they have fragrances that are fresh and appealing.

MATERIALS: plastic see-through containers with air tight lids
pressure labels
sign - "Fragrances of the Earth"

PROCEDURE:

(1) Tell children that they're going exploring for fragrances of the earth.

(2) Take a walk around the school looking for natural things that would have a fragrance such as: soil, leaves, grass, flowers, bark. Smell everything as you go along. Take those things that are convenient to take back, for samples, being careful not to damage the natural beauty of the area, or trespassing on private property.

(3) Put the samples in clear plastic containers. Label each container with a pressure label. Cover the container to keep the fragrance in.

(4) Put the sample on a special table with a large sign stating, "Fragrances of the Earth". All future samples will also be put on this table.

EVALUATIVE ACTIVITY: Using the blindfold, children can test each other by holding the samples under their noses to identify. The blindfolded child must not be able to use the sense of touch to identify the fragrance. The child giving the test should crush the item to release the fragrance. The children may then switch roles.

LESSON 2

UNECOLOGICAL SMELLS

CONCEPT: To discover that there are "man-made" odors which are objectionable to humans, and contrary to the earth's ecological system.

MATERIALS: flasks in holder (rotten egg, oily water, rotten garbage, exhaust sediment)
pictures:
1. factory chimney spewing out poison air
2. oil spill
3. litter and garbage thrown in unsuitable place
4. traffic jam in smoggy city
5. aerosol cans

PROCEDURE: Using observation and inquiry, discuss the pictures and accompanying odors in flasks.

SMOKE STACKS

Have any of you ever seen this kind of a sight?
What cities have this type of smoke stack?
What kind of factories make this terrible smell?
What can people do to keep factories from poisoning the air?
What does that smelly poisonous air do to trees, people, buildings, plant life?

OIL SPILL

What causes water to become oily like in this picture?
What does the oil do to the sea life?
Is there anything we can do to prevent this kind of thing from happening?

GARBAGE AND LITTER

What happens to the garbage after it leaves your house?
What is a good way to get rid of garbage forever?
What happens to food type garbage when it is buried in the ground?
What happens to glass and metal and plastic when it is buried in the ground?

CARS AND SMOG

What is making the air look like this?
What is smog?
What does the smog do to plant and animal life?
How can people help to cut down on smog?

AEROSOL CANS

What kinds of things come in spray cans?
What comes out with the spray?
What kind of gas is present in the can? (flurocarbons)
What do flurocarbons do to the atmosphere? (delete ozones)
Why do we need to preserve the ozone in the atmosphere?
What could we use instead of spray cans?

LESSON 3

COOKING WITH THE EARTH'S FRAGRANCES

CONCEPT: To enjoy the delicious fragrances of the earth by cooking with them.

MATERIALS:
iced tea with lemon and mint (wild variety)
chart paper - felt pen
white cake mix
baking utensils
fruit extracts (lemon, strawberry, raspberry)
other extracts such as smoke

PROCEDURE:

1. Ask the children to close their eyes and try to imagine a past time when they have walked into the house and smelled sweet fruity fragrances coming from the kitchen.

2. Have them tell what fragrance came to their mind and then write it down on a chart entitled "Cooking with fragrances from the earth".

3. Mix a prepared cake mix. Divide it into equal portions and add the different extracts. Make cupcakes so that the children can sample the different sweet fruity flavors.

4. Serve iced tea with lemon and mint. Ask the children to try and identify the 3 fragrances present in the drink.

EVALUATIVE ACTIVITY: Make a chart with "flaps". Under the flap is a picture of the fruit (cut out from a magazine). On top of the flap is a cotton ball with the corresponding extract on it. The children may, at their leisure, play the guessing game with the chart.

LESSON 4

COMMERCIAL USE OF THE EARTH'S FRAGRANCES

CONCEPT: To find the ways man has used natural fragrances in unnatural forms, to make functional activities more pleasant.

MATERIALS: pressure labels, felt pen
assorted commercial products that use fragrances of the earth, i.e.: air spray, shampoo, soap, dishwashing soap, perfume, cosmetics, waxes, notepaper, toothpicks, candles, advertisements, books, etc.
Mr. Yuk stickers

PROCEDURE:

1. Ask the children to ask around home for some products that contain earth fragrances. Be sure to warn them to sniff only and not to taste. With their parent's permission, they may bring the products to school. They may put a pressure label on the product telling which fragrance it contains. Apply Mr. Yuk stickers to indicate poisonous contents.

2. These products may be placed on the display table, classified according to the varied fragrances. A large picture of the source of the fragrance could be placed under the classifications to add color and interest.

3. Discuss using the products in a safe way. Expose the possible dangers such as poisoning, blinding, explosion, etc.

EVALUATIVE ACTIVITY: Give each child, individually, a test on fragrances of the earth by giving them the prepared test paper, tape lesson, and numbered boxes containing different fragrances of the earth that have been commercially produced.

Lesson 4
Evaluative Activity

NAME:

1. orange lemon lime	2. huckleberry fern pine	3. mint cherry ivy
4. raspberry peach grape	5. vanilla coffee tea	6. daisy rose sweet pea
7. grapefruit peach orange	8. strawberry loganberry raspberry	9. lime lemon orange

NAME:

Lesson 4
Evaluative Activity

Answer Sheet

1. orange **lemon** lime	2. huckleberry fern **pine**	3. **mint** cherry ivy
4. **raspberry** peach grape	5. vanilla coffee **tea**	6. daisy **rose** sweet pea
7. grapefruit peach **orange**	8. **strawberry** loganberry raspberry	9. **lime** lemon orange

Lesson 4
Evaluative Activity test

Set up boxes 1 through 9 next to the tape recorder. To make sure that each child has a turn doing the test, put a class list on a clipboard and have each child cross his name off as he does the test.

To replenish the fragrances in the boxes, saturate the cotton on the box with extract, spray or perfume.

Tape narrative:

Hello boys and girls. Today we're going to have a little test to see if you can identify the fragrances in the boxes in front of you. Be sure that they are in numerical order.

Put your name at the top of the paper. Listen carefully to the instructions for each part. If the tape goes too fast for you, stop the tape and rewind it back to where you need it.

Okay, here we go!

Do you see box 1 on your test paper? There are 3 words in it - orange, lemon and lime. Pick up box 1 off the table, take the lid off and sniff the fragrance - don't touch it, just smell it. Then put the lid back on. Now circle the correct word that goes with the fragrance. I'll say them again - orange, lemon, lime. Now circle the correct word.

Let's go on to box 2. The 3 choices are: huckleberry, fern, pine. Pick up box 2 in front of you and sniff it. Now circle the correct word - huckleberry, fern, pine.

From now on, I'll just say the box number and the 3 words. You sniff, then circle the correct word.

Box 3 - mint, cherry, ivy
Box 4 - raspberry, peach, grape
Box 5 - vanilla, coffee, tea
Box 6 - daisy, rose, sweet pea
Box 7 - grapefruit, peach, orange
Box 8 - strawberry, loganberry, raspberry
Box 9 - line, lemon, orange

Now that you are finished, rewind the tape. Make sure the boxes are in order for the next person. Put your test paper on the teacher's desk and go tell another person who hasn't done the test.

Thank you.

LESSON 5

ANIMALS AND SMELL

CONCEPT: To learn about the olfactory sense in animals and their use of it to defend themselves, find mates, discover, and sense direction.

MATERIALS: animal picture: hyena, hamster, dog, insects, silk worm, deer
reading excerpts from various sources concerning the importance of olfactory sense in animal's physical and social structure of life (typed in large primer print so that children can easily read them later)

PROCEDURE:

1. Hold up each picture and let the children identify them, tell what they know about them, and where their habitat is.
2. Direct the children's attention to the fact that each animal uses the sense of smell for an important aspect of their life. Compare with human ability.
3. Read each excerpt, then attach it to the picture.

EVALUATIVE ACTIVITY: Using the prepared test worksheet and tape, give the children a short test that inquires into the olfactory habits of animals.

BIBLIOGRAPHY:

Adler, Irving and Ruth. Taste, Touch and Smell. New York: the John Day Co., 1966, pps. 36, 37.

Hopf, Alice L. Misunderstood Animals. New York: McGraw-Hill Book Co., 1973, p. 100.

World Book Encyclopedia. Chicago: Field Enterprises Educ. Corp., 1967

HYENA from Misunderstood Animals

"Female hyenas guard their territories with great ferocity, going on regular boundary-marking trips in which each animal follows the example of the leader in depositing a scent marker on certain rocks or bits of vegetation."

SILKWORM from Taste, Touch and Smell

"Many animals use their sense of smell to find a mate. A male silkworm moth can detect a female moth three miles away by her smell."

DEER from Taste, Touch and Smell

"Many animals depend on their sense of smell to warn them of danger. A deer can detect the smell of approaching enemies on the wind."

FISH from Taste, Touch and Smell

"Some saltwater fish depend on their sense of smell to help them locate the freshwater streams where they lay their eggs."

SKUNK from World Book

"A skunk has a pair of scent glands near its tail. These glands give out a vile-smelling fluid that serves as a defense against human and animal enemies. A frightened skunk can squirt the fluid up to 10 feet with good aim."

DOG from World Book

"Dogs recognize objects by smell much as people recognize them by sight. A dog can detect the scent of an object which its master has held in his hand for only a second.

Avalanche sheperd dogs of Switzerland can smell people buried under 20 feet of snow.

Moisture helps a dog detect odors, and most dogs have moist noses. Dogs lick their noses to keep them moist."

BEES from World Book

"Several worker bees always stand guard at the nest entrance. All the bees in any hive have their own hive odor. The guards can tell when a stranger alights at the entrance, because it smells different."

EVALUATIVE ACTIVITY: The children will have a test given on the tape recorder. The narrative and test sheet are on the following pages.

Lesson 5
Evaluative Activity
Tape Narrative and Questions

Hello boys and girls. Today we're going to play a little game, to see if you can answer some questions about animals you know, and how they use the sense of smell.

I will ask you six different questions - one for each box on your paper. You will be able to choose the answer you want, and then circle it.

Let's start with box number 1. I'll ask the question and you circle the word that you think is correct. You will have 3 choices for each question.

1. Which animal stakes out its territory by squirting out a strong odor on rocks and plants? (hyena)

2. Which animal recognizes objects by smell, such as people do by sight? (dog)

3. Which animal uses a vile smelling scent to ward of enemies? (skunk)

4. Which kind of insect can smell its mate up to 3 miles away? (silkworm moth)

5. Which animal can smell approaching enemies, carried on the wind? (deer)

6. Which insect guards the nest by detecting the odor of other insects entering it? (bee)

Now that you are finished, rewind the tape. Put your test paper on the teacher's desk and go tell another person who hasn't done the test.

Lesson 5
Evaluative Activity

NAME:

1.

horse hyena cheetah

2.

mouse insect dog

3.

raccoon skunk beaver

4.

silkworm moth ladybug inchworm

5.

giraffe sasquatch deer

6.

bee beetle moth

LESSON 6

RECALLING SEASONAL FRAGRANCES

CONCEPT: To experience, through recall and storytelling, a fragrance that corresponds with some positive experience in the past.

MATERIALS: seasonal pictures (leaves burning, flowers blooming, spring showers, hiking, snowy woods, selecting Christmas tree)
primer typewriter, paper

PROCEDURE:

1. Seat the children on the rug so that they don't touch each other. Pull down the shades (to minimize external stimulation). Hold up the seasonal pictures and discuss what season it would be, what is taking place and what kind of earth fragrance might be present.

2. Ask everyone to close their eyes, and sit very still and listen while you paint a word picture for them. They are to imagine the fragrance that goes with it and hopefully recall some positive experience associated with that fragrance.

WINTER

It's a week before Christmas and your parents just said, "Let's go pick out a Christmas tree." You go to the Christmas tree lot and mom and dad start examining every tree to find just the right one. It seems that they take forever to decide. One little tree has fallen over on its side, so you pick it up and some sticky stuff rubs off on your hand. It sure looks like honey, and its sticky like honey, but it doesn't smell like honey. You take a deep breath. It smells so good - just like the needles of the tree, but a little stronger.

Mom and dad finally decided on a beautiful bushy tree. You helped tie it on the top of your car, then headed for home. All the way home you could smell the pitch on your fingers. It was there the whole time that you decorated the tree and placed the presents under it.

It seems so strange but whenever you get pitch on your fingers now or smell a pine tree, you think of that cold crisp December day when you went shopping for that Christmas tree.

Christmas is a nice smelling time of the year.

SPRING

It is so nice to finally get outside to play. During the winter there were so many cold rainy days that you didn't want to leave the warmth of your home. But now the air is so mild and the sun! Wow, the sun is out!

You don't have to wear that heavy winter coat because spring has finally arrived.

Last week you got to plant your very own row of radishes - red ones and white ones. You helped with the other planting, too. Lots of rich black dirt got under your fingernails and you had to use the little brush to scrub them that night in the bathtub.

Every day you went out to check and see if there were any little green radish sprouts. Sometimes you had to pull up weeds and you always had to water.

When the water hits the soil, a very rich earthy fragrance rises. The heat from the sun makes it smell even richer. You always like that smell. It's not like flowers, or fruit, but it has what you might call an "earthy" fragrance.

It makes you think of planting seeds, pulling weeds and watering your garden. It's such a good smell and it makes you think of spring.

SUMMER

Golly, you've been waiting for this day for months. Yesterday you heard one kid on the playground say something like, "No more pencils, no more books, no more teacher's dirty looks". You really did like school, but everyone needs a vacation once in a while.

Many wonderful hours were yours that summer as you played, swam, picnicked, and slept outdoors in your little red and blue tent.

All during the summer you had lots of company. Friends came, relatives stayed, from near and far, for long and short visits.

One thing you always like to do for mom, because she loved it so much, and of course, for the company, was to cut some flowers for a small bouquet for the center of the table.

Some of them smelled so good, and others had a rather peculiar smell, and certainly didn't seem to match their beauty. There was one that even made you sneeze. It was purple.

You were very faithful about keeping fresh flowers on the table. It delighted you, especially when your mom bragged about you picking and arranging them all by yourself.

Those sweet and sometimes peculiar fragrances still remind you of good times together with friends and relatives and especially the long, lazy fun-filled days of summer when you were smaller.

FALL

New shoes, new socks, new clothes for school. A box of 64 crayons with its own built-in sharpener. A plastic box for pencils and a shiny notebook with a surfer on the front. Those are some of the nice things about going back to school.

It's almost fall and you can really tell, because now you have to wear your sweater in the chilled air. Later on in the fall you noticed that the leaves on the trees out in front were beginning to turn from green to yellow to red to brown.

One day when the leaves had almost all fallen to the ground your dad asked you if you could help by raking them in piles. At first you thought it might be kind of fun. In fact, it was very fun. Under each crinkly layer were little treasures - a worm, 3 bugs and lots of strange little critters you'd never seen before.

When the pile was sooo tall, you got this sudden urge! You looked all around you, took a running start and whammo! - right in the top of the pile.

You landed face down and it was like falling in a bowl of corn flakes - crunch! The fragrance was like the dampness of the earth. Jaggedy pieces of fragrance got in your mouth, and you spit them out. You got up and brushed yourself off. You looked around and guess who was watching? Yes, that's right - mom and dad. They laughed at you but quickly added that you had to again gather the leaves into the piles. That wasn't so much fun.

You were full of the dickens that day. When you undressed that night you left a small sample of that big pile of leaves right on your bedroom rug. You picked some pieces up to smell them again. They didn't smell the same indoors.

EVALUATIVE ACTIVITY:

Ask children to think about a pleasant experience they had that involved smelling the earth's fragrances. If they can't recall something from the past, help them to think of one they've had recently in this ecology experience.

The child may dictate the story to be typed by the teacher on a large print typewriter. The child can illustrate the story. An appropriate fragrance should be added to the picture so that they can "scratch and sniff" the picture. Extracts, perfumes, sachet, etc. can be used.

These stories can be compiled in a book or displayed on the wall at nose level.